

WHAT IS CLAIMED IS:

1. A distributed computer network for use with a general purpose computer having a communications port and capable of running application software for controlling the network, comprising:

a master controller having first and second communications ports, the first communications port of said master controller for operatively communicating with a general purpose computer via a communications link selected from the group consisting of RS-232, USB (Universal Serial Bus), Ethernet, Bluetooth, and infrared, the second communications port for operatively communicating over a distributed computer network, said master controller having a processor and memory to provide data buffering and data bus arbitration over the distributed computer network; and

an input/output controller having first and second communications ports, said first communications port of said input/output controller for operatively communicating with the second communications port of the master controller, wherein said communication between said master controller and said input/output controller is carried out over said distributed computer network, and said second communications port of said input/output controller for operatively communicating with one or more peripheral devices, wherein said communication between said input/output controller and said peripheral devices is carried out over a local network, said input/output controller having the capacity to communicate simultaneously with said peripheral devices using more than one communication protocol; and wherein said input/output controller performs local network management functions and translates commands from the application software to said peripheral devices.

2. A distributed computer network as defined by claim 1, wherein said master controller communicates with a plurality of input/output controllers, said plurality of input/output controllers are operatively connected together via a multidrop network

bus comprising a communications link selected from the group consisting of RS-485 and Ethernet.

3. A distributed computer network as defined by claim 1, wherein said peripheral devices are operatively connected together in a serial daisy chain configuration, said serial daisy chain forming a peripheral device bus.

4. A distributed computer network as defined by claim 3, further comprising a wedge interface for communicating between said second communications port of the input/output controller and said peripheral devices, said wedge interface including a first wedge communications port for communicating with the second communications port of the input/output controller, a second wedge communications port for communicating with a first peripheral device, and a third wedge communications port for serially communicating with a second peripheral device.

5. A distributed computer network as defined by claim 4, wherein said wedge interface receives data in a first predetermined data format and converts said data to a second predetermined data format which is compatible for communication with the input/output controller.

6. A distributed computer network as defined by claim 5, wherein said second predetermined data format is keyboard data format.

7. A distributed computer network as defined by claim 4, wherein said wedge interface further comprises a multiplexer for selectively disabling one of said peripheral devices from communicating with the I/O controller.

8. A distributed computer network as defined by claim 7, wherein said wedge interface further comprises a microprocessor for monitoring said peripheral device bus and controlling said multiplexer in response to whether said peripheral device bus is available for transmitting data to the input/output controller, wherein said microprocessor having memory for storing data from said peripheral devices when said peripheral device bus is not available for data transmission.

9. A distributed computer network for use with a general purpose computer having a communications port and being capable of running applications software for controlling the network, comprising:

a master controller having first and second communications ports, the first communications port of said master controller for operatively communicating with a general purpose computer via a communications link selected from the group consisting of RS-232, USB (Universal Serial Bus), Ethernet, Bluetooth, and infrared said second communications port comprising a multidrop network bus, said master controller having a processor and memory to provide data buffering and data bus arbitration over the distributed computer network; and

an input/output controller having a first communications port for operatively communicating with said multidrop network bus, wherein said communication between said master controller and said input/output controller is carried out over said distributed computer network, a second communications port for operatively communicating with a display, and a third communications port for operatively communicating with one or more peripheral devices, said input/output controller having the capacity to communicate simultaneously with said display and said peripheral devices using more than one communication protocol, wherein said communication between said input/output controller and said peripheral devices is carried out over a local network; and wherein said input/output controller performs local network management functions and translates commands from the application software to said peripheral devices.

10. A distributed computer network as defined by claim 9, wherein said distributed network includes a plurality of input/output controllers, said plurality of input/output controllers operatively connected together via a common multidrop network bus for communicating with said master controller.

11. A distributed computer network as defined by claim 10, wherein said multidrop network bus comprises a communications link selected from the group consisting of RS-485 and Ethernet and wherein said master controller communicates

with the general purpose computer via a communications link selected from the group consisting of RS-232, USB, Ethernet, Bluetooth, and infrared, whereby said master controller performs protocol management functions including conversion between RS-232 and RS-485 protocol, error correction and detection, bus arbitration and data buffering.

12. A distributed computer network as defined by claim 11, wherein each of said plurality of input/output controllers includes an indicating device, said display is a video monitor and one of said peripheral devices is a bump bar, and wherein said distributed computer network is configured as a Kitchen System.

13. A distributed computer network for use with a general purpose computer having a communications port and being capable of running applications software for controlling the network, comprising:

a master controller having first and second communications ports, the first communications port of the master controller for operatively communicating with a general purpose computer via a communications link selected from the group consisting of RS-232, USB (Universal Serial Bus), Ethernet, Bluetooth, and infrared, the second communications port for operatively communicating over a distributed computer network, said master controller having a processor and memory to provide data buffering and data bus arbitration over the distributed computer network;

an input/output controller having a first communications port for operatively communicating with said master controller, wherein said communication between said master controller and said input/output controller is carried out over said distributed computer network, a second communications port for serially communicating with a plurality of peripheral devices, wherein said communication between said input/output controller and said peripheral devices is carried out over a local network, a third communications port for operatively communicating with a keyboard, and a fourth communications port for operatively communicating with a video monitor, said input/output controller having the capacity to communicate simultaneously with said

keyboard, said video monitor and said peripheral devices using more than one communication protocol; and

wherein said input/output controller performs local network management functions and translates commands from the application software to said peripheral devices.

14. A distributed computer network as defined by claim 13, wherein said plurality of peripheral devices are connected together in a serial daisy chain configuration, said serial daisy chain forming a peripheral device bus.

15. A distributed computer network as defined by claim 13, wherein said master controller communicates with a plurality of input/output controllers, said plurality of input/output controllers being operatively connected together via a multidrop network bus comprising a communications link selected from the group consisting of RS-485 and Ethernet.

16. A distributed computer network as defined by claim 15, further comprising a wedge interface for communicating between said second communications port of the input/output controller and said plurality of peripheral devices, said wedge interface including a first wedge communications port for communicating with the second communications port of the input/output controller, a second wedge communications port for communicating with a first peripheral device, and a third wedge communications port for serially communicating with a second peripheral device.

17. A distributed computer network as defined by claim 16, wherein said wedge interface receives data in a first predetermined data format and converts said data to a second predetermined data format which is compatible for communication with the input/output controller.

18. A distributed computer network as defined by claim 17, wherein said second predetermined data format is keyboard data format.

19. A distributed computer network as defined by claim 16, wherein said wedge interface further comprises a multiplexer for selectively disabling one of said plurality of peripheral devices from communicating with the I/O controller.

20. A distributed computer network as defined by claim 19, wherein said plurality of peripheral devices are connected together in a serial daisy chain configuration, said serial daisy chain forming a peripheral device bus and wherein said wedge interface further comprises a microprocessor for monitoring said peripheral device bus and controlling said multiplexer in response to whether said peripheral device bus is available for transmitting data to the input/output controller, wherein said microprocessor having memory for storing data from said plurality of peripheral devices when said peripheral device bus is not available for data transmission.